

REMARKS

Status of the Claims

Claims 14 and 21-37 are pending in the present application, with new claims 38 and 39.

New Claims 38 and 39

New claims 38 and 39 have been added. Basis for these claims is provided in paragraphs [0056] and [0063] of the specification. Applicant respectfully submits that no new matter is added by these claims.

Response to Rejections Under 35 U.S.C. § 103(a)

Claims 14, 21, 25-28, 30, 36, and 37 were rejected as allegedly unpatentable over Hongo et al. (US Patent 5,172,137) (hereinafter “Hongo”) in view of Cassiano (US PG Pub 2002/0110395) (hereinafter “Cassiano”). Claims 22 and 31-35 were rejected as allegedly unpatentable over Hongo in view of Matsui et al. (JP 60-016377) (hereinafter “Matsui”). Claims 23, 24, and 29 were rejected as allegedly unpatentable over Hongo in view of Cassiano and Shiga et al. (JP 57-163588) (hereinafter “Shiga”).

Independent Claim 14

Claim 14, as amended, recites a printhead assembly comprising: a thermal printhead arranged to print on an image-receiving substrate; a platen; a support; a first frame slideably connected to said support, one of said printhead and said platen being mounted on said first frame; a second frame, the other one of the printhead and platen being supported on said second frame; a motor configured to drive said first frame relative to said support to cause the one of said printhead and platen to move in a linear direction toward the other, whereby the distance traveled by the first frame relative to said support is controlled by rotation of the motor; and a compressor arranged to exert a biasing force on one of said printhead and said platen when said one of said printhead and said platen abuts said image receiving substrate and said motor drives said first frame relative to said support and towards said second frame, such that a pressure applied to the image receiving substrate by said one of said printhead and said platen can be controlled; wherein the compressor is arranged so as

to compressibly support the second frame; and wherein a distance between said first frame and the one of said printhead and said platen is fixed.

The Office action concedes that Hongo fails to teach a compressor arranged to compressibly support the second frame such that it exerts a biasing force when one of the printhead and the platen abuts the image receiving substrate and the driver drives the first frame relative to the support and towards the second frame such that a pressure applied to the image receiving substrate by one of the printhead and the platen can be controlled. Applicant further submits that Hongo fails to teach “a motor configured to drive said first frame relative to said support to cause the one of said printhead and platen to move in a linear direction toward the other whereby the distance traveled by the first frame relative to said support is controlled by rotation of the motor.” Hongo, instead, teaches that once the upper cover 6 is closed, the printhead 9 is already in contact with the platen roll (see Hongo column 3, lines 43-47). The printhead 9 is not moved by driving a frame, least of all in a direction towards the platen roll 11.

Still further, Applicant respectfully submits that Hongo fails to teach “a distance between said first frame and the one of said printhead and said platen is fixed.” The Office action identifies element 3 depicted in Figure 2 of Hongo to be equivalent to the first frame recited in these claims. Hongo does teach that stoppers 18 fixed to the shaft portions 3 are pressed in the direction of the platen roll 11 when the printhead 9 contacts a sheet to be printed upon. However, in contrast to claim 14, the shaft portions 3 and stoppers 18 are not at a fixed distance from the printhead 9 (See Hongo abstract and column 3, lines 33-35). Rather, the printhead 9 is sprung relative to the shaft portions 3 by springs 4. Additionally, Applicant respectfully submits that if the printhead 9 of Hongo is considered to be implicitly mounted on a frame, such a frame cannot be considered equivalent to the “first frame” recited in claim 14. Claim 14 requires that the distance travelled by the “first frame” is “controlled by rotation of the motor.” Such an implicit frame in Hongo would not travel over a distance that is controlled by rotation of a motor.

The Office action attempts to find “a compressor arranged to compressibly support the second frame such that it exerts a biasing force when one of the printhead and the platen abuts the image receiving substrate and the driver drives the first frame relative to the

support and towards the second frame such that a pressure applied to the image receiving substrate by one of the printhead and the platen can be controlled” in Cassiano. However, Applicant respectfully submits that Cassiano does not teach a “first frame” upon which one of a printhead and platen is mounted with a distance therebetween fixed, which first frame is driven by “a motor” to cause “the one of a printhead and platen to move in a linear direction toward the other.” Carriage 19 is said to translate along bar 18 through operation of a motor. The motor could therefore be said to drive the carriage 19. However, as with Hongo, the printing head 20 of Cassiano is sprung relative to carriage 19 by springs 23 and 25. Thus, Cassiano fails to teach the feature of “a distance between the first frame and the one of said printhead and said platen being fixed.” Also, the translation does not “cause one of a printhead and a platen to move in a linear direction toward the other.” Applicant respectfully submits that Cassiano does not disclose a frame that is driven by a motor to cause one of a printhead and a platen to move in a linear direction toward the other.

Therefore, no combination of Hongo and Cassiano could lead a person of ordinary skill in the art to the printhead assembly claimed in claim 14. For at least these reasons, Applicant respectfully submits that claim 14 is patentably distinguishable over Hongo in view of Cassiano. Withdrawal of the rejection is respectfully requested.

Dependent claims 21, 28-30, 36, and 37 depend from independent claim 14. Therefore, for at least the same reasons as claim 14, Applicant respectfully submits that claims 21, 28-30, 36, and 37 are patentably distinguishable over Hongo in view of Cassiano. Withdrawal of the rejections is respectfully requested.

Independent Claim 25

Claim 25, as amended, recites a method of controlling a printhead assembly comprising: a thermal printhead arranged to print on an image-receiving substrate; a platen; a support; a first frame slideably connected to said support, one of said printhead and said platen being mounted on said first frame; a second frame, the other one of the printhead and platen being supported on said second frame; a motor configured to drive said first frame relative to said support to cause the one of said printhead and platen to move in a linear direction toward the other, whereby the distance traveled by the first frame relative to said support is controlled by rotation of the motor; and a compressor arranged to exert a biasing

force on one of said printhead and said platen, wherein the compressor is arranged so as to compressibly support the second frame; and wherein a distance between said first frame and the one of said printhead and said platen is fixed; wherein said method comprises the step of: controlling the motor to drive said first frame relative to said support and towards said second frame when said one of said printhead and said platen abuts said image receiving substrate, to cause said compressor to exert a biasing force on one of said printhead and said platen, such that a pressure applied to the image receiving substrate by said one of said printhead and said platen can be controlled.

For at least those reasons described above with respect to claim 14, Applicant respectfully submits that no combination of Hongo and Cassiano could lead a person of ordinary skill in the art to the method of claim 25. Therefore, for at least those reasons described above with respect to claim 14, Applicant respectfully submits that claim 25, as amended, is patentably distinguishable over Hongo in view of Cassiano. Withdrawal of the rejection is respectfully requested.

Dependent claims 26 and 27 depend from independent claim 25. Therefore, for at least the same reasons, these dependent claims are likewise believed to be patentable.

Independent Claim 22

Claim 22, as amended, recites a label printing device comprising: a printhead arranged to print on an image-receiving substrate; a platen; a support; a first frame slideably connected to said support, one of said printhead and said platen being mounted on said first frame; a detecting device configured to detect information stored with said image receiving substrate, wherein the information is stored on one of the image receiving substrate and a cassette holding the image receiving substrate; a driver configured to drive said first frame relative to said support in accordance with said information stored with said image receiving substrate, to cause the one of said printhead and platen to move in a linear direction toward the other; and a processor configured to use a look up table to determine a distance to drive the first frame relative to the support based on the information stored with the image receiving substrate.

The Office action concedes that Hongo does not disclose a detecting device for detecting information stored with an image receiving substrate and a processor configured to use a look-up table to determine a distance to drive a first frame relative to a support based on the information. The Office action attempts to find the missing elements in the teachings of Matsui.

The Office action indicates that an input device 4 is used in Matsui for the input of information. However, Matsui does not teach that the information input via input part 4 is stored with an image receiving substrate, as is clearly recited in claim 22. Nevertheless, in order to expedite proceedings, claim 22 has been amended to clarify that the information is stored on one of the image receiving substrate and a cassette holding the image receiving substrate. Matsui fails to disclose any information being stored on an image receiving substrate or on a cassette holding an image receiving substrate. Matsui similarly fails to disclose any detecting device for detecting information stored on an image receiving substrate or on a cassette holding an image receiving substrate.

Therefore, no combination of Hongo and Matsui could lead a person of ordinary skill in the art to the label printing device of claim 22. Any combination of the teachings of Hongo and Matsui would necessarily lack at least the elements of “a detecting device for detecting information stored with an image receiving substrate” and “a processor configured to use a look up table to determine a distance to drive the first frame relative to the support based on the information stored with the image receiving substrate.” For at least these reasons, it is respectfully submitted that claim 22, as amended, is patentably distinguishable over Hongo in view of Matsui. Withdrawal of the rejection is respectfully requested.

Dependent claims 31-33 depend from independent claim 22. For at least the same reasons as claim 22, Applicant respectfully submits that claims 31-33 are patentably distinguishable over Hongo in view of Matsui. Withdrawal of the rejection is respectfully requested.

Independent Claim 34

Claim 34, as amended, recites a method of controlling a label printer comprising: a printhead arranged to print on an image-receiving substrate; a platen; a support; and a first frame slideably connected to said support, one of said printhead and said platen being mounted on said first frame; wherein said method comprises detecting information stored with said image receiving substrate, wherein the information is stored on one of the image receiving substrate and a cassette holding the image receiving substrate; and wherein said method comprises driving said first frame relative to said support in accordance with said information stored with said image-receiving substrate, to cause the one of said printhead and said platen to move in a linear direction toward the other; and wherein the method comprises using a look up table to determine the distance to drive the first frame relative to the support based on the information stored with the image-receiving substrate.

For at least those reasons described above with respect to claim 22, Applicant respectfully submits that no combination of Hongo and Matsui could lead a person of ordinary skill in the art to the method of claim 34. Therefore, for at least those reasons described above with respect to claim 22, Applicant respectfully submits that claim 34, as amended, is patentably distinguishable over Hongo in view of Matsui. Withdrawal of the rejection is respectfully requested.

Dependent claim 35 depends from independent claim 34. For at least the same reasons as claim 34, Applicant respectfully submits that claim 35 is patentably distinguishable over Hongo in view of Matsui. Withdrawal of the rejection is respectfully requested.

Independent Claim 23

Claim 23, as amended, recites a printer comprising: an input device for inputting data; a thermal printhead arranged to print on an image-receiving substrate; a platen; a support; a first frame slideably connected to said support, one of said printhead and platen being mounted on said first frame; a second frame, the other one of the printhead and platen being supported on said second frame; a motor configured to drive said first frame relative to said support to cause the one of said printhead and platen to move in a linear

direction toward the other, whereby the distance traveled by the first frame relative to said support is controlled by rotation of the motor; and a compressor arranged to exert a biasing force on one of said printhead and said platen when said one of said printhead and said platen abuts said image receiving substrate and said motor drives said first frame relative to said support and towards said second frame, such that a pressure applied to said image receiving substrate by said one of said printhead and said platen can be controlled; wherein the compressor is arranged so as to compressibly support the second frame; and wherein a distance between said first frame and the one of said printhead and said platen is fixed.

The Office action concedes that Hongo does not teach “a compressor arranged to compressibly support the second frame such that it exerts a biasing force on the platen when one of the printhead and the platen abuts said image receiving substrate and the driver drives the first frame relative to the support and towards the second frame, such that a pressure applied to said image receiving substrate by said one of said printhead and said platen can be controlled.” In addition, for at least those reasons described above with respect to claims 14 and 25, Applicant respectfully submits that Hongo fails to disclose “a motor configured to drive said first frame to said support to cause the one of said printhead and platen to move in a linear direction toward the other, whereby the distance traveled by the first frame relative to said support is controlled by rotation of the motor.” This element is similarly not disclosed in either Cassiano or Shiga.

Therefore, Applicant respectfully submits that no proper combination of Hongo, Cassiano, and Shiga will result in the printer of claim 23. Thus, Applicant respectfully submits that claim 23 is patentably distinguishable over Hongo and Cassiano in view of Shiga. Withdrawal of the rejection is respectfully requested.

Dependent claim 24 depends from independent claim 23. For at least the same reasons as claim 23, Applicant respectfully submits that claim 24 is patentably distinguishable over Hongo and Cassiano in view of Shiga. Withdrawal of the rejection is respectfully requested.

Conclusion

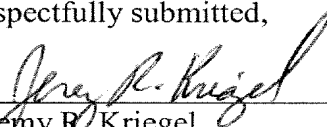
For the foregoing reasons, it is respectfully submitted that claims 14 and 21-38 are in condition for allowance. If the Examiner has any questions that might be resolved by telephone, he is invited to contact the Applicant's undersigned representative at (312) 474-6300.

In the event that any additional fees are due, kindly charge the cost thereof to our deposit account, 13-2855.

Dated: September 30, 2010

Respectfully submitted,

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